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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,361	08/28/2003	Junji Kido	2204-031579	7655
28289	7590	02/27/2006	EXAMINER	
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/650,361	Applicant(s) KIDO ET AL.	
	Examiner Marie R. Yamnitzky	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>rec'd 19 Dec 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's election without traverse of Group I, claims 1-19, in the reply filed on December 02, 2005, is acknowledged.

Claims 20-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on December 02, 2005.

2. Claims 3, 4, 8, 11, 12, 15, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of a "low-molecule-dispersed polymer" as required by claims 3 and 11 is not clear. It is uncertain if this language requires something to be dispersed in the polymer, or if the polymer is dispersed in something.

Claims 4 and 12 each require one of the layers of the claimed device to comprise a bilayer of a polymer and a monomer. The limitations imposed by the claim language are unclear, particularly when considered in light of the specification. The paragraph bridging pages 14 and 15 of the specification contains the only specific example of a "bilayer" but, although this paragraph is said to pertain to a luminous layer that is a bilayer, only one of the two layers of the bilayer actually functions as a luminous layer. Accordingly, it is not clear if both layers of the bilayer required by claim 4 must function as an organic luminous layer, and if both layers of the bilayer of claim 12 must function as a carrier-transporting layer. In the case of the bilayer of

claim 12, it is also not clear if each layer of the bilayer must function to transport the same type of carrier (i.e. both transport holes or both transport electrons).

The formula shown for Ir(ppy)₃ in claims 8, 15 and 18 (and on page 12 of the specification) is apparently incorrect. Applicant does not provide the full chemical name for Ir(ppy)₃, but the abbreviation is generally used in the art to refer to an iridium complex having three phenylpyridine ligands. The ligands in the formula shown in the present application are not phenylpyridine ligands. Further, it is reasonable to expect that the present formula is incorrect because, in order for an uncharged complex of this formula to exist, the iridium would have to be in the hexavalent state (Ir(VI)). This is highly unlikely. (For example, see pages 1009-1010 of *Advanced Inorganic Chemistry, A Comprehensive Text*, 2nd ed., ©1966, regarding valence/oxidation states of iridium.)

The text of claim 17 is confusing. If claim 17 is intended to be similar to claims 7 and 14, then “of” should be deleted from line 2 and all text after “compounds.” should be deleted.

3. Regarding claim interpretation, in each of the independent claims, the examiner notes the use of the term “or” in the claim language pertaining to how the claimed device is driven. The examiner interprets the claim language as requiring the device to be capable of being driven as at least one of the two types of recited devices. The prior art references relied upon in the following prior art rejections disclose devices which are capable of being driven as at least one of the two types of recited devices. Even if the claim language were to clearly require the device to be capable of being driven as an electroluminescent display device and as a liquid crystal display

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device, it is the examiner's position that it is reasonable to expect that prior art devices which have the same structure/composition as the claimed devices would inherently be capable of being driven as both an electroluminescent device and a liquid crystal device absent objective evidence to the contrary.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 9, 10, 13, 14, 16, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikmet et al. (US 5,748,271).

See the whole patent. In particular, see column 1, lines 6-19, c. 2, l. 14-c. 3, l. 4, c. 3, l. 60-c. 4, l. 13 and c. 5, l. 5-22.

Hikmet et al. disclose an electroluminescent device in which a light-emitting layer is sandwiched between a pair of electrodes, and the light-emitting layer comprises a liquid crystal (LC) compound and an electroluminescent (EL) compound. The LC compound and EL

compound may be different compounds, or the LC and EL properties can be provided by a single compound. Hikmet's device includes an oriented electroconductive polymer layer adjacent the layer comprising the LC/EL compound(s).

The oriented electroconductive polymer layer may be one of the electrodes, or may be provided as a separate layer between an electrode and the LC/EL layer (c. 2, l. 62-64). When present as a separate layer between an electrode and the LC/EL layer, Hikmet's oriented electroconductive polymer layer meets the limitations of the carrier-transporting layer as recited in present independent claims 9 and 16, and further defined in present dependent claim 10.

Regarding present claim 13, Hikmet et al. teach that orientation of the LC compound in the nematic phase provides an optimum orientation (c. 4, l. 11-13).

6. Claims 1-3, 6, 7, 9-11, 14, 16, 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hanna et al. (US 6,218,061 B1).

See the whole patent. In particular, see column 2, lines 34-54, c. 3, l. 10-21 and 33-45, c. 3, l. 51-c. 4, l. 25, c. 5, l. 2-18 and 34-40, c. 6, l. 27-c. 7, l. 11, and Fig. 7-10.

Hanna et al. disclose a charge-transport liquid crystal material that may be used in a layer of an electroluminescent (EL) device. The charge-transport liquid crystal material may be used in a charge-transport layer that is separate from the light-emitting layer (e.g. as in the EL device depicted in Fig. 9), or the layer comprising the charge-transport liquid crystal material may also function as the light-emitting layer (e.g. as in the EL device depicted in Fig. 7).

The charge-transport liquid crystal material may be a polymer (e.g. c. 4, l. 23-25).

The layer comprising the charge-transport liquid crystal material may contain two or more different organic compounds (e.g. c. 6, l. 50-c. 7, l. 11), and mixtures of polymers and low-molecular substances are within the scope of the prior art.

The electrode layer that is adjacent the layer comprising the charge-transport liquid crystal material in the prior art EL devices meets the present claim requirement for an “oriented layer” adjacent the liquid crystal substance. It is the examiner’s position that the present claim terminology of “oriented” places no positive limitations on how the layer must be oriented, and any layer within the EL device structure is necessarily oriented (positioned) relative to the other layers of the device. To the extent that the present claim language of “oriented layer” is intended to require this layer to affect/effect the orientation of the liquid crystal substance, it is the examiner’s position that the electrodes of the prior art device affect/effect the orientation since orientation is achieved by application of a voltage across the device, and application of a voltage across the device would not be capable without the electrodes.

7. Claims 9-11, 14, 16 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Lupo et al. (WO 00/36660 A1).

See the whole document. In particular, see page 8, line 15-p. 15, l. 21.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

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8. Claims 1, 5, 9, 13, 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada et al. (US 6,858,271 B1).

See the whole document. In particular, see column 1, lines 9-12, c. 3, l. 45-51, c. 5, l. 50-c. 6, l. 31, c. 6, l. 65-c. 7, l. 33, c. 7, l. 67-c. 8, l. 48, c. 9, l. 21-32, c. 10, l. 32-36, c. 11, l. 62-c. 12, l. 55, and Fig 1.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

9. Miscellaneous:

Claims 8 and 18 are lacking a period at the end of the claims.

In line 10 of claim 15, --is-- should apparently be inserted after “compounds”.

10. The reference made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,897,913 B2 to Tsuboyama et al. does not constitute prior art, but is of interest as disclosing an EL device in which the luminescent layer comprises a liquid crystal substance and Ir(ppy)₃. Note the difference between the formula for Ir(ppy)₃ as set forth in column 3 of this patent and the formula for Ir(ppy)₃ as set forth in present claims 8, 15 and 18 and in the present specification. The formula as shown in the patent, rather than the formula used by applicant, is the formula generally associated with “Ir(ppy)₃”.

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11. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
February 20, 2006



**MARIE YAMNITZKY
PRIMARY EXAMINER**

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